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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,245	07/01/2005	Chiyo Kusubayashi	018760-023	5812
21839 7590 09/26/2007 BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			EXAMINER DESCHERE, ANDREW M	
			ART UNIT 2836	PAPER NUMBER
			NOTIFICATION DATE 09/26/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/541,245

Applicant(s)

KUSUBAYASHI, CHIYO

Examiner

Andrew M. Deschere

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 9-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/1/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9-14 rejected under 35 U.S.C. 102(b) as being anticipated by Nomura (US

6,388,904).

ms Nomura discloses a vehicle power supplying system (Figure 10). An electric power inverter (inverter bridge 58) converts a first type of dc power received through an overhead wire (power line 1) to a second type of dc power (at rectifier 68) for supplying a load (inverter 9). An electric power supplier (inverter bridge 59) converts the first type of dc power to a third type (at rectifier 69; the third type being the same as the second type, as inverter bridges 58 and 59 are connected in parallel). The second and third types of dc power are output to control circuitry (at adder 44), the control circuitry controlling the electric power inverter (via PWM generator 46 and gate drive amplifier 48).

With regard to claims 10, 12, and 14, the output of the electric power inverter (inverter bridge 58) also supplies power to convert a fourth type of ac power (three-phase AC voltage 13).

Art Unit: 2836

With regard to claim 11, as the electric power inverter (inverter bridge 58) and electric power supplier (inverter bridge 59) of Nomura are in parallel, both will be outputted to the controller.

With regard to claim 13, as the electric power inverter (inverter bridge 58) and electric power supplier (inverter bridge 59) of Nomura are in parallel, the higher of their outputted voltages will be detected by the control circuitry (at adder 44).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-22 rejected under 35 U.S.C. 103(a) as being unpatentable over Nomura in view of Tanaka (US 5,703,415).

With regard to claim 15, Nomura discloses the vehicle power supplying system above, but does not disclose a butt-jointed diode used as a power-outputting unit to supply power from inverter bridges 58 and 59. Tanaka discloses a conventional diode configuration for a power supply circuit (Figure 1), arranged in a "butt-jointed" configuration to allow the high of two supply voltages to be output to a load. Using this teaching, one could implement a butt-jointed diode at the converging point of the parallel inverter paths in Nomura, at the outputs of rectifiers 68 and 69. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a butt-jointed diode in the invention of Nomura, such as to prevent a backflow of power if one inverter is operating abnormally and has a voltage lower than the other.

Art Unit: 2836

With regard to claim 16, see rejections of claims 10 and 15 above.

With regard to claims 17 and 19, Nomura discloses a first protector (fuse 3) connected between the overhead wire (power line 1) and the inverter bridges 58 and 59.

With regard to claims 18 and 20, see rejections of claims 10, 17, and 19 above.

With regard to claim 21, the electric power inverter (inverter bridge 58) includes an internal second protector (capacitor 21).

With regard to claim 22, see rejections of claims 10 and 21 above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kato (US 4,795,859) discloses an auxiliary power system for a train that receives power from an overhead line. Aoyama (US 6,278,256) discloses a control system for a vehicle powered by an overhead line. Itoh (US 5,796,175) discloses a power supply controller for an electric vehicle, including butt-jointed diodes.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew M. Deschere whose telephone number is (571) 272-8391. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571) 272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2836

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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